# Motion control Lexium 32i integrated drives

Catalogue

June 2013

MOTION CONTROL PRODUCTS

Official distributor of Schneider Electric

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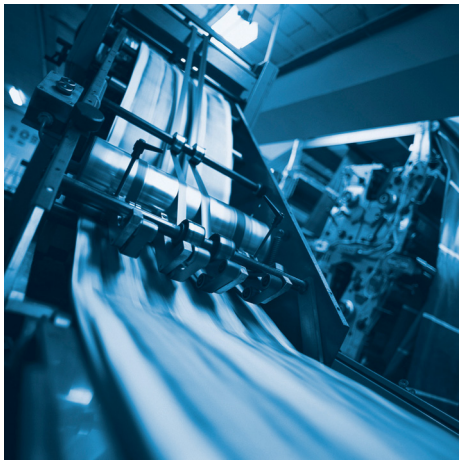
# Motion control
# Lexium 32i integrated drives

PF080934

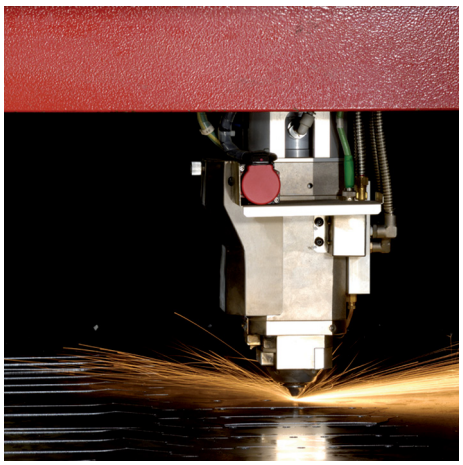
*Lexium 32i integrated drive controlling a packing line*

PF513513



*Lexium 32i integrated drive controlling a printing line*

PF080933



*Lexium 32i integrated drive controlling a materials processing machine*

## Presentation

The modular range of Lexium 32i integrated drives features two communication interfaces for controlling Lexium BMI servo motors. These servo motors integrate the power stage that provides a direct power supply from either a single-phase or three-phase AC supply.
The Lexium 32i thus offers optimum functionality that can adapt to the specific performance, power, and simplicity of use requirements of motion control applications.
It covers power ratings between 0.4 and 2.1 kW.

The Lexium 32i range of integrated drives is designed to simplify the life cycle of machines. SoMove setup software simplifies initial startup. The modular design facilitates installation by reducing assembly time to as little as three minutes and makes maintenance easier. Maintenance is also quicker and cheaper thanks to the new duplication and backup tools, like the memory card.

Performance is improved through optimized motor control achieved through reduced vibration with automatic parameter calculation, a speed observer, and an additional band-stop filter. This optimization helps to increase machine productivity.

The compact size of the Lexium 32i provides maximum power in minimum space, which helps to reduce the size of the enclosure required by up to 60% and the direct and indirect costs by up to 30%.

Two communication interfaces - CANopen/CANmotion and EtherCAT - allow adaptation to numerous industrial control system architectures.

The integrated Safe Torque Off function reduces system design times and makes it easier to comply with safety standards.

## Applications for industrial machines

The Lexium 32i integrated drive incorporates functions that are suitable for the most common applications, including:

- printing - cutting, position-controlled machinery, etc.
- packing and wrapping - cutting to length, rotary knife, bottling, capsuling, labeling, etc.
- textiles - winding, spinning, weaving, embroidery, etc.
- material handling - conveying, palletizing, warehousing, pick-and-place, etc.
- transfer machines - gantries, hoists, etc.
- clamping
- flying shear operations - cutting, printing, marking, etc.
- materials processing, etc.

## The offer

The Lexium 32i range of integrated drives covers motor power ratings between 0.4 kW and 2.1 kW with three types of power supply:

- 110…120 V single-phase, from 0.4 kW to 0.75 kW (**BMI●●●T●●●**)
- 200…240 V single-phase, from 0.7 kW to 1.3 kW (**BMI●●●T●●●**)
- 208…480 V three-phase, from 0.4 kW to 2.1 kW (**BMI●●●P●●●**)

### Compliance with international standards and certifications

The entire range conforms to international standards IEC/EN 61800-5-1 and IEC/EN 61800-3, is UL *(1)* and CSA certified, and has been developed to meet the requirements of directives regarding protection of the environment (RoHS) as well as those of European directives to obtain the CE mark.

### Compliance with electromagnetic compatibility (EMC) requirements

The integration of category C2 EMC filters in Lexium 32i drives and compliance with EMC simplify installation and make it very inexpensive to bring the device into conformity to obtain the CE mark.
These filters comply with standard IEC/EN 61800-3, environment 1, category C2.

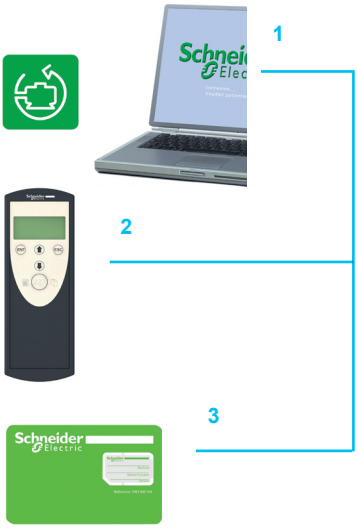
### Accessories and options

External accessories and options, such as braking resistors and planetary gearboxes, enhance this offer.

*(1) Certification pending*

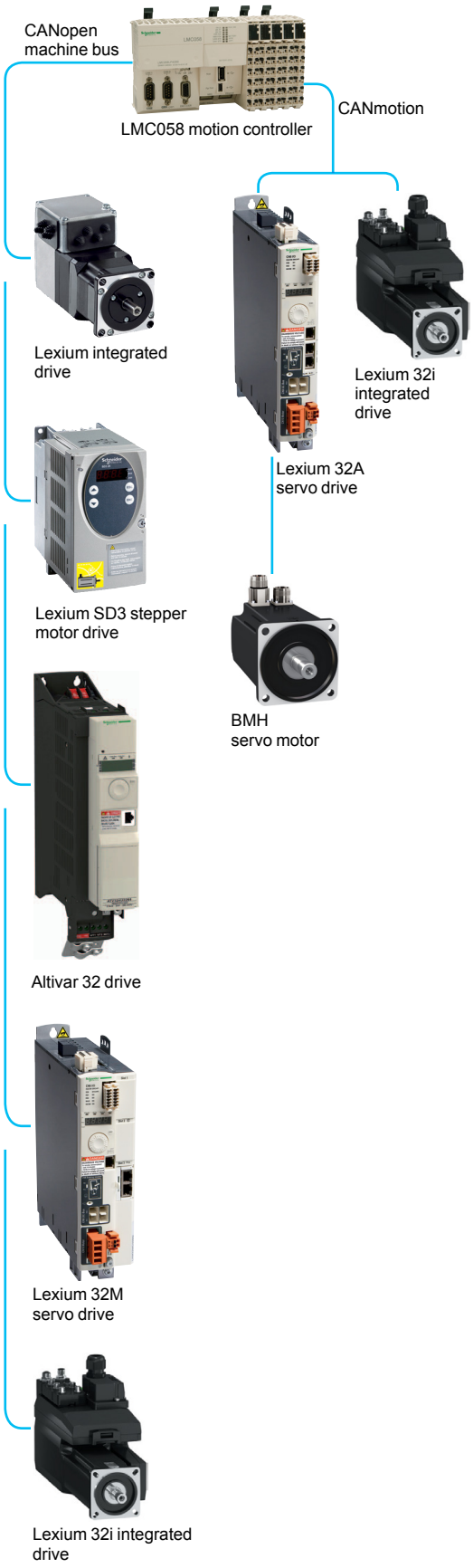
# Motion control
# Lexium 32i integrated drives

## Simplicity, from installation to maintenance



| | |
|---|---|
| **SoMove setup software** 1 | SoMove setup software is used in just the same way as it is on other Schneider Electric drives and starters, to configure and optimize control loops in automatic or manual mode using the Oscilloscope function and for maintenance of the Lexium 32i integrated drive.<br>See page 14. |
| **Multi-Loader tool** 2 | The Multi-Loader tool is used to copy configurations from a PC or Lexium 32i drive and load them onto another Lexium 32i.<br>Power to the Lexium 32i drives can be on or off. See page 14. |
| **Memory card** 3 | This stores the communication interface parameters. When replacing a Lexium 32i, this function helps to ensure immediate startup by removing the need to program the drive. This optimizes maintenance time and reduces costs. See page 15. |
| **Auto-tuning** | Adapted to each user, the three auto-tuning levels - automatic, semi-automatic, and expert - allow you to achieve a high level of machine performance, whatever the application. |
| **Mounting and maintenance** | The modular design and the memory card for storing configurations help to optimize mounting and maintenance procedures. |

# Motion control
# Lexium 32i integrated drives




*Example of control system architecture with CANopen and CANmotion machine bus*

## High performance

The following Lexium 32i offer features help to increase machine performance:
- Overload capacity: The high peak current (up to 4 times the direct current) increases the range of movement.
- Power density: The compact size of the drives offers maximum efficiency in a small space.
- High bandwidth: Better speed stability and faster acceleration improve the quality of control.
- Motor control: Less vibration, a speed observer, and an additional band-stop filter enhance the quality of control.

## Design suitable for different control system structures

The versatility of the Lexium 32i range offers excellent flexibility for integration into different control system structures.

Depending on the model, the Lexium 32i has logic inputs and outputs, which can be configured according to application requirements.
It also has communication interfaces for control via:
- CANopen/CANmotion machine bus
- EtherCAT machine bus

## Dedicated safety functions

The Lexium 32i range is an integral part of a control system's safety system, featuring as it does an integrated Safe Torque Off (STO) function, which helps to prevent unintended servo motor operation.
This function complies with standard IEC/EN 61508 level SIL3 governing electrical installations and the power drive systems standard IEC/EN 61800-1.
It simplifies the setup of installations requiring complex safety equipment and improves performance during maintenance operations by reducing the time required for servicing. The bus connection module with STO option is required to access this function (see page 10).

## Lexium BMI servo motors - dynamic and powerful

Lexium BMI servo motors are synchronous three-phase motors. They feature a SinCos Hiperface® for automatic transmission of data from the servo motor to the communication interface and are available with or without a holding brake.

Lexium BMI servo motors provide high power density values to optimize machine compactness. Available with two flange sizes and two different lengths for each flange size, they are suitable for most applications, covering a continuous torque range from 1.7 to 7.2 Nm for speeds up to 4700 rpm. They cover the power range 0.4 to 2.1 kW.

BMI servo motors have a medium inertia motor, which means they are particularly suitable for high-load applications. They help to simplify installation and adjustment through a more robust adjustment of the movement.

Lexium BMI servo motors are UL Recognized and conform to standard UL1004 *(1)* as well as to European directives (CE marking).

They are available with the following variants:
- 2 flange sizes: 70 and 100 mm/*2.76 and 3.94 in.*
- 2 degrees of protection for the shaft end: IP 54 or IP 65 in accordance with standard IEC/EN 60529 (the degree of protection of the casing is IP 65)
- with or without holding brake
- integrated single-turn or multi-turn SinCos Hiperface® encoder (standard or high resolution)
- smooth or keyed shaft end

*(1) Certification pending*

Presentation: page 2 | Lexium 32i integrated drive: page 8 | Configuration tools: page 14 | Options: page 16

PF112242A

*Lexium BMI servo motor with power stage*

## Lexium BMI servo motors - dynamics and power (continued)

### Specific features

Lexium BMI servo motors have been developed to comply with the following main specifications:

- The ambient operating temperature is - 0...+ 50°C/+ *32...+ 122°F*.
- The maximum operating altitude is 1000 m/*3281 ft* without derating; 2000 m/*6562 ft* with a maximum ambient temperature of 45°C/*113°F* and a continuous power reduction of 1% for every 100 m/*328 ft* above 1000 m/*3281 ft*; and 3000 m/*9842 ft* with a maximum ambient temperature of 40°C/*104°F* and a continuous power reduction of 1% for every 100 m/*328 ft* above 1000 m/*3281 ft*.
- The servo motor can withstand 5...95% relative humidity (non-condensing).
- The windings are insulation class F in accordance with standard IEC 60034-1 (maximum temperature for windings is 155°C/*311°F*).
- Thermal protection is provided and controlled by the Lexium 32i integrated drive via the motor temperature control algorithm.
- All mounting positions are permitted:
  - horizontal mounting (IMB5)
  - vertical mounting (IMV1 with shaft end at the top and IMV3 with shaft end at the bottom) in accordance with standard IEC 60034-7

### Holding brake

Lexium BMI servo motors can be equipped with an electromagnetic holding brake.

⚠ **Do not use the holding brake as a dynamic brake for deceleration, as this will quickly damage the brake.**

### Integrated encoder

Lexium BMI servo motors are equipped with an absolute encoder.

This encoder performs the following functions:

- It gives the absolute position of the motor so that flows can be synchronized.
- It measures the servo motor speed via the associated Lexium 32i integrated drive (this information is used by the drive's speed controller).
- It measures the position information for the Lexium 32i position controller.
- It sends data from the servo motor to the control unit, which provides automatic motor identification when the Lexium 32i starts.

4 encoder models are available:

- High resolution SinCos Hiperface® encoder:
  - single-turn (131,072 points/turn) *(1)*
  - multi-turn (131,072 points/turn x 4096 turns) *(1)*

These encoders give an angular shaft position precise to less than ± 1.3 arc minutes.

- Standard resolution SinCos Hiperface® encoder:
  - single-turn (32,768 points/turn) *(1)*
  - multi-turn (32,768 points/turn x 4096 turns) *(1)*

These encoders give an angular shaft position precise to less than ± 4.8 arc minutes.

*(1) Encoder resolution given for a Lexium 32i integrated drive.*

## Main functions *(3)*

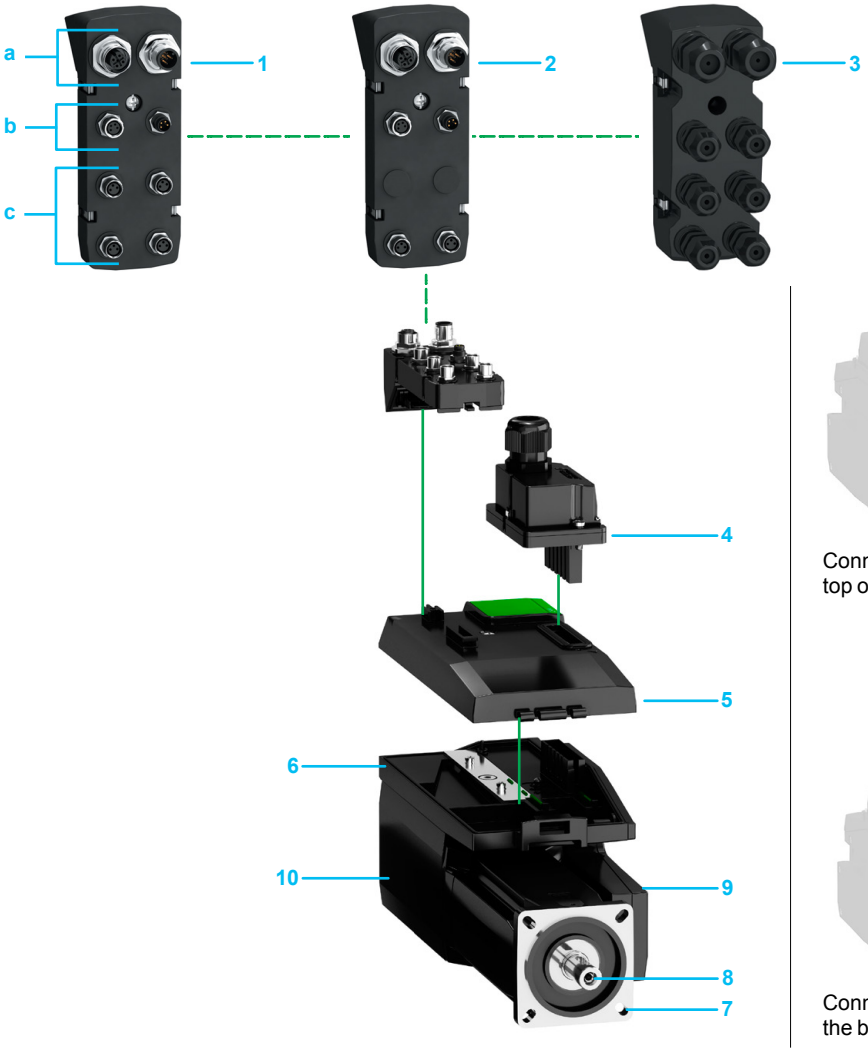
| **Communication interface** | | **LXM32ICAN** | **LXM32IECT** |
|---|---|---|---|
| **Communication interface** | Integrated | Integrated Modbus link<br>CANopen/CANmotion machine bus | Integrated Modbus link<br>EtherCAT bus |
| | Operating mode | Homing<br>Manual mode (JOG)<br>Speed control<br>Current control<br>Position control | |
| | Functions | Auto-tuning, monitoring, stopping, stop window, conversion, rapid entry of position values | |
| **24 V ⎓ logic inputs** *(1)* | | 4 max., reassignable | |
| **24 V ⎓ capture inputs** *(1) (2)* | | 2, reassignable | |
| **24 V ⎓ logic outputs** *(1)* | | 2, reassignable<br>For use with the following models: VW3M9105, VW3M9110 | |
| **Integrated safety function** | | Safe Torque Off (STO)<br>For use with the following models: VW3M9101, VW3M9103, VW3M9201, VW3M9203, VW3M9105,VW3M9106, VW3M9108, VW3M9206, VW3M9208, VW3M9110 | |
| **Architecture** | | Control via:<br>■ Schneider Electric or third-party PLCs via communication bus | |
| **Drive** | | **BMI** | |
| **Application** | | High load | |
| | | With robust adjustment of the movement | |
| **Flange size** | | 70 or 100 mm/*2.76 or 3.94 in.* | |
| **Continuous torque** | | 1.7 to 7.2 Nm | |
| **Encoder** | Single-turn SinCos Hiperface® | ■ 32,768 points/turn<br>■ 131,072 points/turn | |
| | Multi-turn SinCos Hiperface® | ■ 32,768 points/turn x 4096 turns<br>■ 131,072 points/turn x 4096 turns | |
| **Degree of protection** | Casing | IP 65 | |
| | Shaft end | IP 54 for horizontal mounting (IMB5) or vertical mounting with shaft end at the top (IMV1) or IP 65 | |

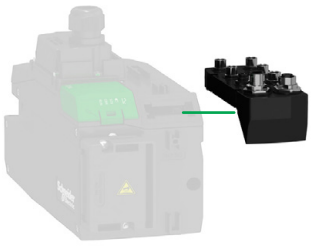
*(1) Unless otherwise stated, the logic I/O can be used in positive logic (Sink inputs, Source outputs) or negative logic (Source inputs, Sink outputs).*
*(2) Two standard logic inputs can be used as capture inputs.*
*(3) Functions depend on the selected configuration (see page 9).*

# Motion control
# Lexium 32i integrated drives

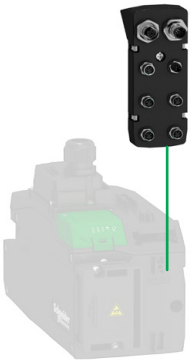
## Description

Lexium 32i integrated drives comprise control electronics with an interface for a CANopen DS402/CANmotion or EtherCAT communication bus and a Lexium BMI synchronous servo motor.
They can be equipped with a single-turn or multi-turn encoder and an integrated holding brake as required.
2 types of connection are possible:
- industrial connectors (1 and 2)
- internal terminals (3)



Connection module (1, 2, 3) mounted on top of the Lexium 32i



Connection module (1, 2, 3) mounted on the back of the Lexium 32i

1 Connection module for CANopen or EtherCAT bus (depending on the model) with 4 logic inputs, M8 connectors, and STO function
  a 2 x M12 connectors for CANopen or EtherCAT bus
  b 2 x M8 connectors for STO function
  c 2 or 4 x M8 connectors for logic inputs
2 Connection module for CANopen or EtherCAT bus (depending on the model) with 2 logic inputs, M8 connectors, and STO function (connection modules with industrial connectors are also available without the STO function)
3 Connection module with internal terminals with 8 cable glands (6 x M12 and 2 x M16), 4 logic inputs, and 2 logic outputs (cable glands to be ordered separately, see page 11)
4 Power supply module available in 2 versions (for single-phase or three-phase power supply)
5 Communication interface card available in 2 versions:
- for CANopen DS402/CANmotion bus
- for EtherCAT bus

Motor section with power stage comprising:
6 Casing with RAL 9005 opaque black paint protective coating
7 A 4-point axial mounting flange available in the following sizes:
- 70 mm/*2.76 in.*
- 100 mm/*3.94 in.*

8 A smooth or keyed shaft end (depending on the model)
9 Lexium BMI servo motor comprising a three-phase stator and a 10-pole rotor with Neodymium Iron Boron (NdFeB) magnets
10 Power stage

# Motion control
# Lexium 32i integrated drives
## Drive/communication and accessories

| Lexium BMI servo motor according to supply voltage | | | | | |
|---|---|---|---|---|---|
| **Drive** | **Rotor inertia without brake** | **Nominal operating point** | | | **Stall torque M0/Mmax** *(1)* |
| | | **Nominal torque** | **Nominal speed** | **Nominal power** | |
| | **kgcm²** | **Nm** | **rpm** | **kW** | **Nm/Nm** |
| **115 V ∿ single-phase supply voltage** | | | | | |
| **BMI0702T** | 1.13 | 2.2 | 1700 | 0.4 | 2.3/6.6 |
| **BMI0703T** | 1.67 | 2.9 | 1400 | 0.4 | 3/8.6 |
| **BMI1002T** | 6.28 | 5.4 | 1400 | 0.75 | 5.4/14.5 |
| **230 V ∿ single-phase supply voltage** | | | | | |
| **BMI0702T** | 1.13 | 1.7 | 4000 | 0.7 | 2.3/6.6 |
| **BMI0703T** | 1.67 | 2.2 | 3200 | 0.7 | 3/8.6 |
| **BMI1002T** | 6.28 | 4.4 | 3000 | 1.3 | 5.4/14.5 |
| **208 V ∿ three-phase supply voltage** | | | | | |
| **BMI0702P** | 1.13 | 2.4 | 1800 | 0.4 | 2.5/6.8 |
| **BMI0703P** | 1.67 | 2.9 | 1600 | 0.45 | 3/8.6 |
| **BMI1002P** | 6.28 | 5.4 | 1900 | 1 | 5.4/14 |
| **BMI1003P** | 9.37 | 7.2 | 1500 | 1 | 7.2/19.2 |
| **400 V ∿ three-phase supply voltage** | | | | | |
| **BMI0702P** | 1.13 | 2.2 | 3600 | 0.8 | 2.5/6.8 |
| **BMI0703P** | 1.67 | 2.7 | 3300 | 0.9 | 3/8.6 |
| **BMI1002P** | 6.28 | 5.1 | 3800 | 1.9 | 5.4/14 |
| **BMI1003P** | 9.37 | 6.8 | 3000 | 2 | 7.2/19.2 |
| **480 V ∿ three-phase supply voltage** | | | | | |
| **BMI0702P** | 1.13 | 2 | 4400 | 0.9 | 2.5/6.8 |
| **BMI0703P** | 1.67 | 2.3 | 3900 | 0.9 | 3/8.6 |
| **BMI1002P** | 6.28 | 4.1 | 4700 | 1.9 | 5.4/14 |
| **BMI1003P** | 9.37 | 5.6 | 3700 | 2.1 | 7.2/19.2 |

*(1) - M0: Continuous stall torque.*
*- Mmax: Peak stall torque.*

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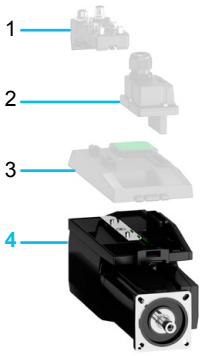
Connection modules: page 10
Power supply modules: page 10
Communication interfaces: page 10

# Motion control
# Lexium 32i integrated drives
## Drive/communication and accessories




Lexium 32i:
1: Connection module
2: Power supply module
3: Communication interface
4: BMI drive

## References

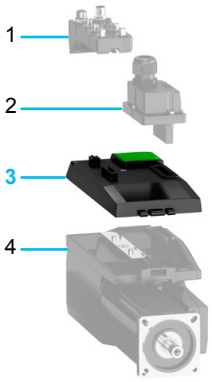
**To order a Lexium 32i, replace the "●" with the values given in the table below.**

**Example: BMI0702P06A + LXM32ICAN + VW3M9108**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BMI drive (Lexium BMI servo motor + power stage)** | | | | ● | ● | ● | ● | ● | ● | ● | ● |
| **Flange size** | 70 mm/*2.76 in.* | | | **0** | **7** | **0** | | | | | |
| | 100 mm/*3.94 in.* | | | **1** | **0** | **0** | | | | | |
| **Number of stages** | 2 stages | | | | | | **2** | | | | |
| | 3 stages | | | | | | **3** | | | | |
| **Power supply** | Single-phase *(1) (2)* | | | | | | | **T** | | | |
| | Three-phase *(3)* | | | | | | | **P** | | | |
| **Motor shaft and degree of protection** | IP54 for shaft *(4)* and IP65 for casing | Smooth | | | | | | | **0** | | |
| | | Keyed | | | | | | | **1** | | |
| | IP65 for the unit | Smooth | | | | | | | **2** | | |
| | | Keyed | | | | | | | **3** | | |
| **Encoder type** | Single-turn SinCos Hiperface®<br>131,072 points/turn<br>128 sine/cosine periods per turn | | | | | | | | | **1** | |
| | Multi-turn SinCos Hiperface®<br>131,072 points/turn x 4096 turns<br>128 sine/cosine periods per turn | | | | | | | | | **2** | |
| | Single-turn SinCos Hiperface®<br>32,768 points/turn<br>16 sine/cosine periods per turn | | | | | | | | | **6** | |
| | Multi-turn SinCos Hiperface®<br>32,768 points/turn x 4096 turns<br>16 sine/cosine periods per turn | | | | | | | | | **7** | |
| **Brake** | With brake | | | | | | | | | | **F** |
| | Without brake | | | | | | | | | | **A** |

*(1) Requires a single-phase power supply module for Lexium 32i, reference VW3M9001.*
*(2) Lexium BMI1003●●●● servo motors are only available with a three-phase power supply.*
*(3) Requires a three-phase power supply module for Lexium 32i, reference VW3M9002.*
*(4) Requires horizontal mounting (IMB5) or vertical mounting with shaft end at the top (IMV1).*

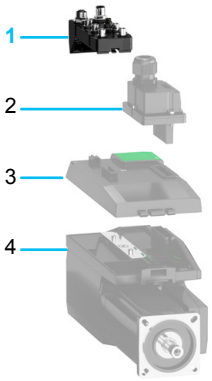
Connection modules: page 10
Power supply modules: page 10
Communication interfaces: page 10




Lexium 32i:
1: Connection module
2: Power supply module
**3: Communication interface**
4: BMI drive

## Communication interface and connection modules for CANopen DS402/CANmotion machine bus *(1)*

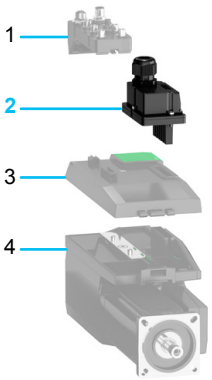
| Description | Bus connector | Number of I/O | STO function | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|
| **Communication interface** | | CANopen DS402/CANmotion bus | | **LXM32ICAN** | – |
| **Connection module for connection via industrial connectors** Positive logic inputs (Source) | 2 x M12 connectors | 4 logic inputs with M8 connectors | Yes *(2)* | **VW3M9101** | – |
| | | | – | **VW3M9102** | – |
| | | 2 logic inputs with M8 connectors | Yes *(2)* | **VW3M9103** | – |
| | | | – | **VW3M9104** | – |
| **Connection module for connection via industrial connectors** Negative logic inputs (Sink) | 2 x M12 connectors | 4 logic inputs with M8 connectors | Yes *(2)* | **VW3M9201** | – |
| | | | – | **VW3M9202** | – |
| | | 2 logic inputs with M8 connectors | Yes *(2)* | **VW3M9203** | – |
| | | | – | **VW3M9204** | – |
| **Connection via internal terminals** Top section with 8 cut-outs for cable glands *(3)*: 6 x M12 and 2 x M16 | – | 4 logic inputs 2 logic outputs | Yes | **VW3M9105** | – |




Lexium 32i:
**1: Connection module**
2: Power supply module
3: Communication interface
4: BMI drive

## Communication interface and connection modules for EtherCAT bus *(1)*

| Description | Bus connector | Number of I/O | STO function | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|
| **Communication interface** | | EtherCAT bus | | **LXM32IECT** | – |
| **Connection module for connection via industrial connectors** Positive logic inputs (Source) | 2 x M12 connectors | 4 logic inputs with M8 industrial connectors | Yes *(2)* | **VW3M9106** | – |
| | | | – | **VW3M9107** | – |
| | | 2 logic inputs with M8 industrial connectors | Yes *(2)* | **VW3M9108** | – |
| | | | – | **VW3M9109** | – |
| **Connection module for connection via industrial connectors** Negative logic inputs (Sink) | 2 x M12 connectors | 4 logic inputs with M8 industrial connectors | Yes *(2)* | **VW3M9206** | – |
| | | | – | **VW3M9207** | – |
| | | 2 logic inputs with M8 industrial connectors | Yes *(2)* | **VW3M9208** | – |
| | | | – | **VW3M9209** | – |
| **Connection via internal terminals** Top section with 8 cut-outs for cable glands *(3)*: 6 x M12 and 2 x M16 | – | 4 logic inputs 2 logic outputs | Yes | **VW3M9110** | – |




Lexium 32i:
1: Connection module
**2: Power supply module**
3: Communication interface
4: BMI drive

## Power supply

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **Single-phase power supply module for Lexium 32i** | **VW3M9001** | – |
| **Three-phase power supply module for Lexium 32i** | **VW3M9002** | – |

*(1) For more information on connector sets, see table on page 11.*
*(2) Requires a cordset for the STO function (for more information, see table on page 11).*
*(3) To be ordered separately (see table on page 11).*

BMI drives:
page 9

VW3L5F000

*VW3L5F000*

## Industrial connectors for communication bus and logic I/O

| Description | Components | Reference | Weight kg/*lb* |
|---|---|---|---|
| **Set of industrial connectors for CANopen bus** | 1 round A-coded male M12 connector<br>1 round A-coded female M12 connector<br>1 M12 blanking plug | **VW3L5F000** | – |
| **Set of industrial connectors for EtherCAT bus** | 2 round D-coded 4-way male M12 connectors<br>1 M12 blanking plug | **VW3L5E000** | – |
| **Set of industrial connectors for logic I/O** | 2 round 3-way M8 connectors | **VW3L50200** | – |
| | 3 round 3-way M8 connectors | **VW3L50300** | – |

DF538045

*VW3M9403*

## Connection components for STO function

| Description | Length m/*ft* | Reference | Weight kg/*lb* |
|---|---|---|---|
| **Cordsets for Lexium 32i with STO function with one 4-way female M8 industrial connector at one end and flying leads at the other**<br>For use with the following models:<br>VW3M9101, VW3M9103, VW3M9201, VW3M9203, VW3M9105, VW3M9106, VW3M9108, VW3M9206, VW3M9208, VW3M9110 | 3/ *9.84* | **VW3M9403** | – |
| | 5/ *16.4* | **VW3M9405** | – |
| | 10/ *32.81* | **VW3M9410** | – |
| | 15/ *49.21* | **VW3M9415** | – |
| | 20/ *65.62* | **VW3M9420** | – |
| **Cordsets for Lexium 32i with STO function with one 4-way male M8 industrial connector and one 4-way female M8 industrial connector**<br>For use with the following models:<br>VW3M9101, VW3M9103, VW3M9201, VW3M9203, VW3M9105, VW3M9106, VW3M9108, VW3M9206, VW3M9208, VW3M9110 | 3/ *9.84* | **VW3M94CR03** ▲ | – |
| | 5/ *16.4* | **VW3M94CR05** ▲ | – |
| | 10/ *32.81* | **VW3M94CR10** ▲ | – |
| | 15/ *49.21* | **VW3M94CR15** ▲ | – |
| | 20/ *65.62* | **VW3M94CR20** ▲ | – |
| **Round 4-way male M8 connector**<br>for cordsets for STO signals | – | **VW3L50010** | – |

PF112231A

*VW3M9508*

## Separate parts

| Description | Sold in lots of | Reference | Weight kg/*lb* |
|---|---|---|---|
| **M12 cable gland for Lexium 32i for I/O and STO function** | 12 | **VW3M9508** | – |
| **M16 cable gland for Lexium 32i for fieldbus** | 10 | **VW3M9512** | – |

▲ Available Q4 2013

BMI drives: page 9
Connection modules: page 10
Power supply modules: page 10
Communication interfaces: page 10

## CANopen machine bus connection components

### Connection accessories

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **Line terminator**<br>with 5-way male M12 connector | **TM7ACTLA** | – |
| **CANopen connector**<br>9-way female SUB-D connector with line termination switch | **VW3M3802** | – |

### Cordsets

| Description | Length m/*ft* | Reference | Weight kg/*lb* |
|---|---|---|---|
| **CANopen cordsets** with<br>1 female M12 connector and<br>1 male M12 connector (straight, A-coded) | 0.3/*0.98* | **TCSCCN1M1F03** | – |
| | 1/*3.28* | **TCSCCN1M1F1** | – |
| | 2/*6.56* | **TCSCCN1M1F2** | – |
| | 5/*16.4* | **TCSCCN1M1F5** | – |
| | 10/*32.81* | **TCSCCN1M1F10** | – |
| | 15/*49.21* | **TCSCCN1M1F15** | – |
| **CANopen cordsets** with<br>1 female M12 connector and<br>1 male M12 connector (elbow, A-coded) | 0.3/*0.98* | **TCSCCN2M2F03** | – |
| | 1/*3.28* | **TCSCCN2M2F1** | – |
| | 2/*6.56* | **TCSCCN2M2F2** | – |
| | 5/*16.4* | **TCSCCN2M2F5** | – |
| | 10/*32.81* | **TCSCCN2M2F10** | – |
| | 15/*49.21* | **TCSCCN2M2F15** | – |
| **CANopen cordsets** with<br>1 straight A-coded female M12 connector at one end and flying leads at the other | 1/*3.28* | **TCSCCN1FNX1SA** | – |
| | 3/9.84 | **TCSCCN1FNX3SA** | – |
| | 10/32.81 | **TCSCCN1FNX10SA** | – |
| | 25/*82.02* | **TCSCCN1FNX25SA** | – |
| **CANopen cordsets** with<br>1 elbow A-coded female M12 connector at one end and flying leads at the other | 1/*3.28* | **TCSCCN2FNX1SA** | – |
| | 3/*9.84* | **TCSCCN2FNX3SA** | – |
| | 10/*32.81* | **TCSCCN2FNX10SA** | – |
| | 25/*82.02* | **TCSCCN2FNX25SA** | – |
| **CANopen cordsets** with<br>1 straight A-coded female M12 connector and<br>1 male RJ45 connector | 3/*9.84* | **VW3M94CAN45R03** ▲ | – |
| | 5/*16.4* | **VW3M94CAN45R05** ▲ | – |
| | 10/*32.81* | **VW3M94CAN45R10** ▲ | – |
| | 15/*49.21* | **VW3M94CAN45R15** ▲ | – |
| | 20/*65.62* | **VW3M94CAN45R20** ▲ | |
| **CANopen cordsets** with<br>1 straight A-coded female M12 connector and<br>1 x 9-way female SUB-D connector | 3/*9.843* | **VW3M94CANS9R03** ▲ | – |
| | 5/*16.404* | **VW3M94CANS9R05** ▲ | – |
| | 10/*32.808* | **VW3M94CANS9R10** ▲ | – |
| | 15/*49.213* | **VW3M94CANS9R15** ▲ | – |
| | 20/*65.617* | **VW3M94CANS9R20** ▲ | – |

▲ Available Q4 2013

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Power supply modules: page 10
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## CANopen machine bus connection components

### Connection cables

| Description | Length m/*ft* | Reference | Weight kg/*lb* |
|---|---|---|---|
| **CANopen cables**<br>Standard cables, CE marking<br>Low smoke zero halogen<br>Flame-retardant<br>(IEC 60332-1) | 50/<br>*164.04* | **TSXCANCA50** | 4.930/<br>*10.869* |
| | 100/<br>*328.08* | **TSXCANCA100** | 8.800/<br>*19.401* |
| | 300/<br>*984.25* | **TSXCANCA300** | 24.560/<br>*54.145* |
| **CANopen cables**<br>UL certification, CE marking<br>Flame-retardant<br>(IEC 60332-2) | 50/<br>*164.04* | **TSXCANCB50** | 3.580/<br>*7.893* |
| | 100/<br>*328.08* | **TSXCANCB100** | 7.840/<br>*17.284* |
| | 300/<br>*984.25* | **TSXCANCB300** | 21.870/<br>*48.215* |
| **CANopen cables**<br>Cables for harsh environment *(1)* or mobile installation,<br>CE marking<br>Low smoke zero halogen<br>Flame-retardant<br>(IEC 60332-1) | 50/<br>*164.04* | **TSXCANCD50** | 3.510/<br>*7.738* |
| | 100/<br>*328.08* | **TSXCANCD100** | 7.770/<br>*17.130* |
| | 300/<br>*984.25* | **TSXCANCD300** | 21.700/<br>*47.840* |

## EtherCAT fieldbus connection components

### Cordsets

| Description | Length m/*ft* | Reference | Weight kg/*lb* |
|---|---|---|---|
| **EtherCAT cordsets** with<br>2 straight D-coded male M12 connectors | 1/<br>*3.28* | **TCSECL1M1M1S2** | – |
| | 10/<br>*32.81* | **TCSECL1M1M10S2** | – |
| **EtherCAT cordsets** with<br>1 straight D-coded male M12 connector<br>and 1 male RJ45 connector | 1/<br>*3.28* | **TCSECL1M3M1S2** | – |
| | 3/<br>*9.84* | **TCSECL1M3M3S2** | – |
| | 10/<br>*32.81* | **TCSECL1M3M10S2** | – |
| | 25/<br>*82.02* | **TCSECL1M3M25S2** | – |
| | 40/<br>*131.23* | **TCSECL1M3M40S2** | – |

**Note**: *Pre-wired connectors and M8 connectors are available under the Telemecanique Sensors brand.*
*For more information, refer to the "OsiSense XZ Cabling Accessories" catalog available to download at www.tesensors.com.*

*(1) Harsh environment:*
*- resistance to hydrocarbons, industrial oils, detergents, solder splashes*
*- relative humidity up to 100%*
*- saline atmosphere*
*- significant temperature variations*
*- operating temperature between -10°C/+14°F and +70°C/+158°F*

# Motion control
# Lexium 32i integrated drives
## Documentation and configuration tools

## Documentation

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **"Description of the Motion & Drives Offer" DVD-ROM** *(1)* | **VW3A8200** | 0.100/ *0.220* |
| Includes:<br>■ technical documentation (programming manuals, installation manuals, instruction sheets)<br>■ catalogs<br>■ brochures | | |
| **Lexium 32i Simplified User Manual** | Available on our website www.schneider-electric.com | – |

## SoMove setup software

SoMove setup software is used to configure, adjust, debug, and maintain the Lexium 32i integrated drive in the same way as it is for other Schneider Electric drives and starters.

It can be downloaded from our website www.schneider-electric.com or viewed on the "Description of the Motion & Drives Offer" DVD ROM (VW3A8200).

For presentation, description, and references, see page 18.

PF095122

*VW3A8121*

## Multi-Loader configuration tool

The Multi-Loader tool enables several configurations to be copied from a PC or a Lexium 32i integrated drive and loaded onto another integrated drive. Power to the Lexium 32i drives can be on or off.

### References

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **Multi-Loader configuration tool**<br>Includes:<br>■ 1 cordset with 2 RJ45 connectors<br>■ 1 cordset with 1 type A USB connector and 1 mini B USB connector<br>■ 1 x 2 GB SD memory card<br>■ 1 female/female RJ45 adapter<br>■ 4 AA 1.5 V LR6 round batteries | **VW3A8121** | – |

*(1) The documentation is available on our website www.schneider-electric.com.*

# Motion control
# Lexium 32i integrated drives
## Memory card

PF112335A

*Duplicating an application using the VW3M8705 memory card*

### Memory card

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **Memory card**<br>This 128 KB SIM card is used to store the Lexium 32i integrated drive parameters.<br>This means that another Lexium 32i integrated drive can be set up immediately in the event of maintenance or if the application needs to be duplicated.<br>Refer to the User Manual for information on how to use the memory card. | **VW3M8705** | – |
| **Pack of 25 memory cards**<br>128 KB SIM cards | **VW3M8704** | – |

# Motion control
# Lexium 32i integrated drives
## Option: braking resistors

PF112244B

*Connection module for external braking resistor mounted on the Lexium 32i*

## Presentation

### Internal braking resistor

A braking resistor is built into the Lexium 32i to absorb the braking energy. If the internal DC bus voltage exceeds a specified value, this braking resistor is activated; the restored energy is converted into heat by the braking resistor.
It enables maximum braking torque.

### External braking resistor

When the Lexium BMI servo motor has to be braked frequently, an external braking resistor is required to dissipate the excess braking energy. In this case, the internal braking resistor must be deactivated.

Several external braking resistors can be connected in parallel. The Lexium 32i monitors the power dissipated in the braking resistor.

The degree of protection of the casing is IP 65 for VW3A7601R●● to VW3A7608R●● braking resistors and IP 20 for VW3A770● braking resistors.
The operating temperature around the unit can be between 0 and + 50°C *(+ 32 and + 122°F)*.

An external braking resistor connection module VW3M9010 is required to use an external braking resistor with a Lexium 32i.

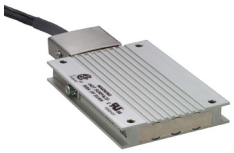
### Applications

- High-inertia machines
- Driving loads
- Machines with fast operating cycles

Presentation: page 2
Lexium 32i integrated drive: page 8
Configuration tools: page 14

# Motion control
# Lexium 32i integrated drives
## Option: braking resistors

PF106005



*VW3A760●R●●*

## References

### Braking resistors

| Ohmic value | Continuous power PPr | Peak energy EPk 115 V | 230 V | 380 V | 480 V | Length of connection cable | Reference *(1)* | Weight |
|---|---|---|---|---|---|---|---|---|
| Ω | W | Ws | Ws | Ws | Ws | m/*ft* | | kg/*lb* |
| **10** | 400 | 18,800 | 13,300 | 7300 | 7700 | 0.75/ *2.46* | **VW3A7601R07** | 1.420/ *3.131* |
| | | | | | | 2/ *6.56* | **VW3A7601R20** | 1.470/ *3.241* |
| | | | | | | 3/ 9.84 | **VW3A7601R30** | 1.620/ *3.571* |
| | 1000 | 36,500 | 36,500 | 22,500 | 22,500 | – | **VW3A7705** | 11.000/ *24.251* |
| **15** | 1000 | 43,100 | 43,100 | 26,500 | 26,500 | – | **VW3A7704** | 11.000/ *24.251* |
| **27** | 100 | 4200 | 3800 | 1900 | 1700 | 0.75/ *2.46* | **VW3A7602R07** | 0.630/ *1.389* |
| | | | | | | 2/ *6.56* | **VW3A7602R20** | 0.780/ *1.720* |
| | | | | | | 3/ 9.84 | **VW3A7602R30** | 0.900/ *1.984* |
| | 200 | 9700 | 7400 | 4900 | 4300 | 0.75/ *2.46* | **VW3A7603R07** | 0.930/ *2.050* |
| | | | | | | 2/ *6.56* | **VW3A7603R20** | 1.080/ *2.381* |
| | | | | | | 3/ 9.84 | **VW3A7603R30** | 1.200/ *2.646* |
| | 400 | 25,500 | 18,100 | 11,400 | 10,500 | 0.75/ *2.46* | **VW3A7604R07** | 1.420/ *3.131* |
| | | | | | | 2/ *6.56* | **VW3A7604R20** | 1.470/ *3.241* |
| | | | | | | 3/ 9.84 | **VW3A7604R30** | 1.620/ *3.571* |
| **72** | 100 | 5500 | 3700 | 2500 | 2300 | 0.75/ *2.46* | **VW3A7605R07** | 0.620/ *1.367* |
| | | | | | | 2/ *6.56* | **VW3A7605R20** | 0.750/ *1.653* |
| | | | | | | 3/ 9.84 | **VW3A7605R30** | 0.850/ *1.874* |
| | 200 | 14,600 | 9600 | 6600 | 6000 | 0.75/ *2.46* | **VW3A7606R07** | 0.930/ *2.050* |
| | | | | | | 2/ *6.56* | **VW3A7606R20** | 1.080/ *2.381* |
| | | | | | | 3/ 9.84 | **VW3A7606R30** | 1.200/ *2.646* |
| | 400 | 36,600 | 24,700 | 16,200 | 15,500 | 0.75/ *2.46* | **VW3A7607R07** | 1.420/ *3.131* |
| | | | | | | 2/ *6.56* | **VW3A7607R20** | 1.470/ *3.241* |
| | | | | | | 3/ 9.84 | **VW3A7607R30** | 1.620/ *3.571* |
| **100** | 100 | 4400 | 4400 | 2900 | 2900 | 0.75/ *2.46* | **VW3A7608R07** | 0.410/ *0.065* |
| | | | | | | 2/ *6.56* | **VW3A7608R20** | 0.560/ *1.235* |
| | | | | | | 3/ 9.84 | **VW3A7608R30** | 0.760/ *1.676* |

PF105659

*VW3A770●*

### Accessories

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **Connection module** for braking resistor *(1)* | **VW3M9010** | – |

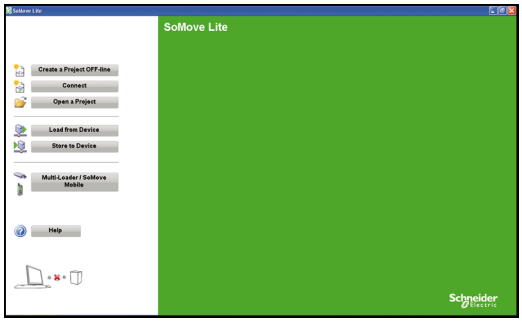
PF112233A

*VW3M9010*

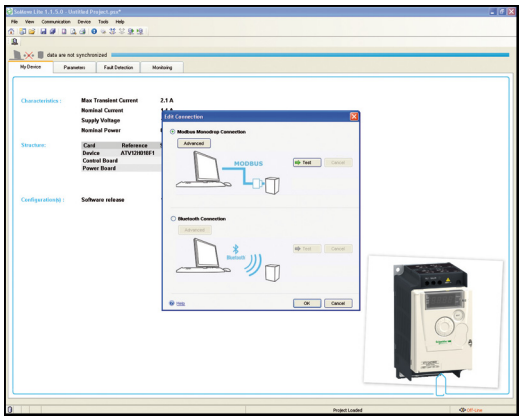
*(1) An external braking resistor connection module VW3M9010 is required to connect an external braking resistor to a Lexium 32i.*

***Note**: The total continuous power dissipated in the external braking resistor(s) must be less than or equal to the nominal power of the Lexium 32i integrated drive (see page 8).*

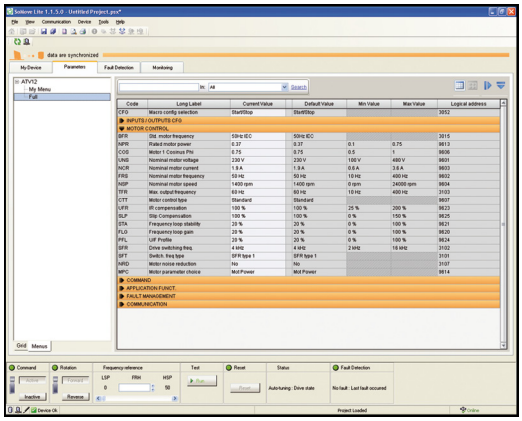
# SoMove setup software




*SoMove start page*



*Example of connecting SoMove software to an ATV 12 drive*



*SoMove control panel*

## Presentation

SoMove is user-friendly setup software for PC designed for configuring the following Schneider Electric motor control devices:

- ATV 12, ATV 312, ATV 31, ATV 32, ATV 61 and ATV 71 drives
- ATS 22 and ATS 48 soft starters
- TeSys U starter-controllers
- TeSys T motor management system
- Lexium 32 servo drives
- Lexium 32i integrated servo drives

SoMove software incorporates various functions for the device setup phases, such as:

- Configuration preparation
- Start-up
- Maintenance

To facilitate setup and maintenance, SoMove software can use a direct USB/RJ45 cable link or a Bluetooth® wireless link.
SoMove software is also compatible with the Multi-Loader configuration tool and SoMove Mobile software for mobile phones.
These tools can save a significant amount of time when loading, duplicating or editing configurations on a device.

SoMove software and the DTMs (Device Type Managers) associated with the devices can be downloaded from our website www.schneider-electric.com.

## Functions

### Configuration preparation in disconnected mode

SoMove software has a genuine disconnected mode which provides access to the device parameters. This mode can be used to generate the device configuration. The configuration can be saved, printed and exported to office automation software.

SoMove software also checks the consistency of the parameters, validating the configurations created in disconnected mode.

A large number of functions are available in disconnected mode, in particular:

- The device configuration software wizard
- The configuration comparison function
- Saving, copying, printing and creating configuration files for export to Multi-Loader, SoMove Mobile or Microsoft Excel® tools, and sending configurations by e-mail

### Setup

When the PC is connected directly to the device or to the communication bus *(1)*, SoMove software can be used for:

- Transferring the generated configuration onto the device
- Adjustment and monitoring, which includes such functions as:
  - The oscilloscope
  - Display of communication parameters
- Easy control via the control panel user interface
- Saving the final configuration

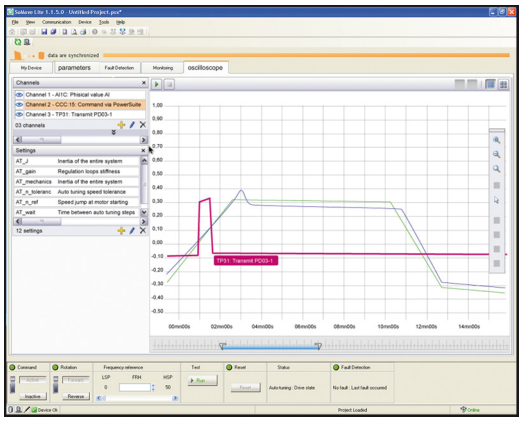
### Maintenance

In order to simplify maintenance operations, SoMove software can be used to:

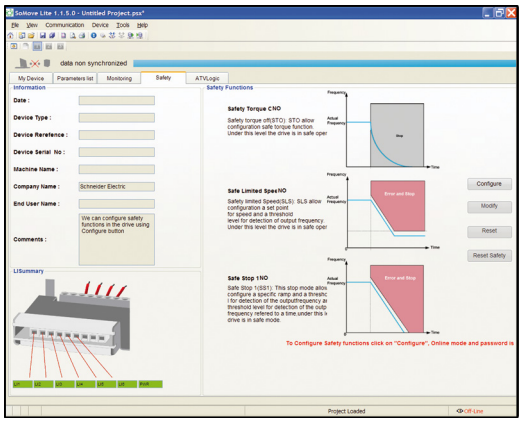
- Compare the configuration of a device currently being used with a configuration saved on the PC
- Transfer a configuration to a device
- Compare oscilloscope curves
- Save oscilloscope curves and faults

*(1) Requires a specific connection accessory. For further information, please consult our Customer Care Centre.*

References: page 20
Compatibility: page 21



*SoMove oscilloscope function*



*SoMove Safety function*

## Functions (continued)

### User interface

SoMove software provides fast, direct access to information on the device via five tabs:

- My Device: Displays the device information (type, reference, software versions, option cards, etc.)
- Parameters: Displays the device adjustment parameters, shown in a table or in the form of diagrams
- Faults: Displays a list of the faults that may be encountered with the device, the fault log and any current faults or alarms
- Monitoring: Provides a realtime display of the device status, its I/O and the monitoring parameters. It is possible to create your own control panel by selecting your parameters and how they are to be represented.
- Oscilloscope: Provides a high-speed oscilloscope (for recording traces in the device) or low-speed oscilloscope (for recording traces in the software for devices that do not have an integrated oscilloscope)

SoMove's user interface automatically adapts to the specific configured device by offering additional tabs:

- Safety: For configuring the Safety functions on ATV 32 variable speed drives and Lexium 32 servo drives. It can also be used to:
  - Display the I/O
  - Compile and print a report
- ATVLogic: For accessing the ATV 32 drive's programmable function blocks. It can also be used to:
  - Develop a program and transfer it to the drive
  - Display and debug the program already on the drive
- Auto-tuning: For accessing the servo control settings for the three different operating modes of the Lexium 32 servo drive's auto-tuning function:
  - Automatic mode for quick setup, designed for simple applications
  - Semi-automatic mode for quick setup, with the option of optimizing the servo drive/servo motor combination (access to the mechanical and dynamic behaviour parameters)
  - Expert mode for optimizing the adjustment parameters, designed for complex applications

### Connections

#### Modbus serial link

The PC running SoMove software can be connected directly via the RJ45 connector on the device and the USB port on the PC using the USB/RJ45 cable.

See the product references on page 20.

#### Bluetooth® wireless link

SoMove software can communicate via Bluetooth® wireless link with any Bluetooth® enabled device.

If the device is not Bluetooth® enabled, use the Modbus-Bluetooth® adaptor *(1)*. This adaptor is connected to the terminal port or the Modbus network port on the device. It has a 20 m/*65 ft* range (class 2).

If the PC does not have Bluetooth® technology, use the USB-Bluetooth® adaptor.

*(1) See the list of the available devices on page 20.*

# SoMove setup software

*SoMove setup software*

PF100898C

*TCSWAAC13FB: Bluetooth® adaptor*

## References

| Description | Reference | Weight kg/*lb* |
|---|---|---|
| **SoMove Lite setup software**<br>Includes:<br>■ SoMove setup software for PC in English, French, German, Italian, Spanish and Chinese<br>■ DTMs (Device Type Managers) and technical documentation for variable speed drives, starters and servo motors | *(1)* | – |
| **USB/RJ45 cable**<br>Used to connect a PC to the device.<br>This cable is 2.5 m long and has a USB connector (PC end) and an RJ45 connector (device end). | **TCSMCNAM3M002P** | – |
| **Modbus/Uni-Telway-Bluetooth® adaptor**<br>Used to enable any non-Bluetooth® device to communicate via Bluetooth® wireless link *(2)*.<br><br>Includes:<br>■ 1 Bluetooth® adaptor (range 20 m, class 2) with an RJ45 connector<br>■ For SoMove: 1 x 0.1 m cordset with 2 x RJ45 connectors<br>■ For TwidoSuite: 1 x 0.1 m cordset with 1 RJ45 connector and 1 mini DIN connector | **TCSWAAC13FB** | 0.032/<br>*0.071* |
| **USB-Bluetooth® adaptor for PC**<br>Used to enable any non-Bluetooth® PC to communicate via Bluetooth® wireless link *(3)*.<br>It connects to a USB port on the PC.<br>Range 10 m, class 2 | **VW3A8115** | 0.290/<br>*0.639* |

*(1) Available on our website www.schneider-electric.com.*
*(2) Available only for the following devices:*
*- ATV 12, ATV 312, ATV 31, ATV 61 and ATV 71 drives*
*- ATS 22 and ATS 48 soft starters*
*- TeSys U starter-controllers*
*- TeSys T motor management system*
*- Lexium 32 servo drives*
*(3) Check the manufacturer's specification.*

Presentation: page 18
Compatibility: page 21

## Compatibility of SoMove software with specific devices

| Device | Range | Version of software on the device |
|---|---|---|
| Variable speed drive | ATV 12, ATV 312, ATV 32 | ≥ 1.0 |
| | ATV 31 | ≥ 1.1 |
| | ATV 61, ATV 71 | ≥ 1.6 |
| Soft starter | ATS 22 | ≥ 1.0 |
| | ATS 48 | ≥ 1.5 |
| Starter-controller | TeSys U | ≥ 1.0 |
| Motor management system | TeSys T | ≥ 1.0 |
| Servo drive | Lexium 32 | ≥ 1.0 |
| Integrated servo drive | Lexium 32i | ≥ 1.0 |

## Environments

SoMove operates in the following PC environments and configurations:

- Microsoft Windows® 7 Professional
- Microsoft Windows® XP Professional SP3
- Microsoft Windows® Vista Business SP2
- Pentium IV (or equivalent), 1 GHz, hard disk with 1 GB available space, 1 GB of RAM (minimum configuration)

Presentation:
page 18

References:
page 20

# Motion control
# Lexium 32i integrated drives
## Motor starters

+

*LC1D18●●*
*+*
*BMI1002T●●●*

## Applications

The combinations listed below can be used to create a complete motor starter unit comprising a contactor and a Lexium 32i integrated drive.

The contactor turns on and manages any protection functions, as well as isolating the servo motor on stopping.
The Lexium 32i provides protection against short-circuits and overloads. Overload protection is provided by the integrated drive's motor thermal protection function.

## Motor starters for Lexium 32i integrated drives

| Lexium BMI servo motor | | Max. prospective line Isc | Contactor |
|---|---|---|---|
| Reference | Nominal power | | Reference *(1) (2)* |
| | kW | kA | |
| **Single-phase supply voltage: 100…120 V ∿ 50/60 Hz** | | | |
| **BMI0702T** | 0.4 | 1 | **LC1D09●●** |
| **BMI0703T** | 0.4 | 1 | **LC1D09●●** |
| **BMI1002T** | 0.75 | 1 | **LC1D18●●** |
| **Single-phase supply voltage: 200…240 V ∿ 50/60 Hz** | | | |
| **BMI0702T** | 0.7 | 1 | **LC1D09●●** |
| **BMI0703T** | 0.7 | 1 | **LC1D09●●** |
| **BMI1002T** | 1.3 | 1 | **LC1D18●●** |
| **Three-phase supply voltage: 400 V ∿ 50/60 Hz** | | | |
| **BMI0702P** | 0.8 | 1 | **LC1D09●●** |
| **BMI0703P** | 0.9 | 1 | **LC1D09●●** |
| **BMI1002P** | 1.9 | 1 | **LC1D09●●** |
| **BMI1003P** | 2 | 1 | **LC1D09●●** |
| **Three-phase supply voltage: 480 V ∿ 50/60 Hz** | | | |
| **BMI0702P** | 0.9 | 1 | **LC1D09●●** |
| **BMI0703P** | 0.9 | 1 | **LC1D09●●** |
| **BMI1002P** | 1.9 | 1 | **LC1D09●●** |
| **BMI1003P** | 2.1 | 1 | **LC1D09●●** |

*(1) Composition of contactors:*
*LC1D●●: 3 poles + 1 NO auxiliary contact and 1 NC auxiliary contact.*
*In certain situations, it is possible to use an LC1K contactor with 1 NO auxiliary contact.*
*Please refer to the "Control and Protection Components" catalog.*
*(2) Replace ●● with the control circuit voltage reference given in the table below:*

| | Volts ∿ | 110 | 115 | 220 | 230 | 240 |
|---|---|---|---|---|---|---|
| **LC1D09...D150** | 50/60 Hz | **F7** | **FE7** | **M7** | **P7** | **U7** |

*For other available voltages between 24 V and 660 V, or for a DC control circuit, please contact our Customer Care Centre.*

## Protection using class J fuses (UL certification)

| Lexium BMI servo motor | | Fuse to be placed upstream |
|---|---|---|
| Reference | Nominal power | |
| | kW | A |
| **Single-phase supply voltage: 100…120 V ∼ 50/60 Hz** | | |
| **BMI0702T** | 0.4 | 8 |
| **BMI0703T** | 0.4 | 8 |
| **BMI1002T** | 0.75 | 15 |
| **Single-phase supply voltage: 200…240 V ∼ 50/60 Hz** | | |
| **BMI0702T** | 0.7 | 8 |
| **BMI0703T** | 0.7 | 8 |
| **BMI1002T** | 1.3 | 15 |
| **Three-phase supply voltage: 400 V ∼ 50/60 Hz** | | |
| **BMI0702P** | 0.8 | 4 |
| **BMI0703P** | 0.9 | 4 |
| **BMI1002P** | 1.9 | 8 |
| **BMI1003P** | 2 | 8 |
| **Three-phase supply voltage: 480 V ∼ 50/60 Hz** | | |
| **BMI0702P** | 0.9 | 4 |
| **BMI0703P** | 0.9 | 4 |
| **BMI1002P** | 1.9 | 8 |
| **BMI1003P** | 2.1 | 8 |

# Motion control
# Lexium 32i integrated drives
## Lexium BMI servo motors
## Option: GB● planetary gearboxes

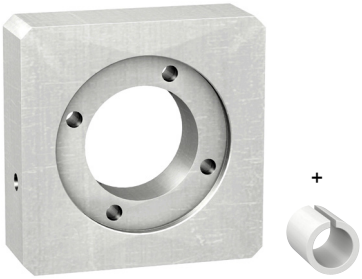
PF080936

*GBX planetary gearboxes*

PF080937

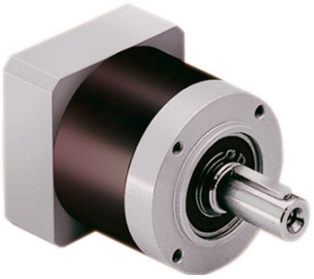
*GBY angular planetary gearbox*

PF080938



*GBK adapter kit*

PF105616



*GBX160 planetary gearbox (with integrated adapter kit)*

## Presentation

In many cases, motion control requires the use of planetary gearboxes to adapt speeds and torques, while providing the precision demanded by the application.

Schneider Electric has chosen to use GBX planetary gearboxes and GBY angular planetary gearboxes (made by Neugart) with the Lexium BMI range of servo motors.
The combination of Lexium BMI servo motors with the most suitable planetary gearboxes makes them very easy to mount and set up.

The gearboxes are designed for applications that are not susceptible to mechanical backlash.
They have a keyed shaft, are lubricated for life, and conform to IP 54 degree of protection.

Available in 3 sizes (GBX80...GBX160), planetary gearboxes are offered with 15 reduction ratios (3:1...100:1).
GBY angular planetary gearboxes are available in 2 sizes (GBY80…GBY120) with 7 reduction ratios (3:1...40:1).

The tables on pages 25 and 26 show the most suitable combinations of servo motor and GBX or GBY planetary gearbox.
For other combinations or any additional information about planetary gearbox characteristics, refer to the servo motor data sheets or visit our website www.schneider-electric.com.

A GBK adapter kit is also available for mounting Lexium BMI servo motors with GBX80…GBX120 or GBY80…GBY120 planetary gearboxes (see page 27).
The GBX160 planetary gearbox is equipped as standard with an integrated adapter kit.

The adapter kit comprises:
- an adapter plate
- a shaft end adapter, depending on the model (depends on the servo motor/ planetary gearbox combination)
- accessories for mounting the plate on the planetary gearbox
- accessories for mounting the servo motor

# Motion control
# Lexium 32i integrated drives
## Lexium BMI servo motors
## Option: GBX planetary gearboxes

## References

PF080936

*GBX●●●●●●K planetary gearbox*

| Size | Reduction ratio | Reference | Weight kg/*lb* |
|---|---|---|---|
| **GBX80** | 3:1, 4:1, 5:1, and 8:1 | **GBX080●●●K** | 2.100/ *4.630* |
| | 9:1, 12:1, 15:1, 16:1, 20:1 | **GBX080●●●K** | 2.600/ *5.732* |
| **GBX120** | 3:1, 4:1, 5:1, and 8:1 | **GBX120●●●K** | 6.000/ *13.228* |
| | 9:1, 12:1, 15:1, 16:1, 20:1, 25:1, 32:1, and 40:1 | **GBX120●●●K** | 8.000/ *17.637* |
| | 60:1, 80:1, and 100:1 | **GBX120●●●K** | 10.000/ *22.046* |
| **GBX160** | 25:1, 32:1, and 40:1 | **GBX160●●●100●F** | 22.000/ *48.502* |

***To order a GBX080…GBX120 planetary gearbox, complete each reference above as follows:***

| | | | GBX | ●●● | ●●● | K |
|---|---|---|---|---|---|---|
| **Size** | Casing diameter | 80 mm/*3.15 in.* | | **080** | | |
| | | 120 mm/*4.72 in.* | | **120** | | |
| **Reduction ratio** | | 3:1 | | | **003** | |
| | | 4:1 | | | **004** | |
| | | 5:1 | | | **005** | |
| | | 8:1 | | | **008** | |
| | | 9:1 | | | **009** | |
| | | 12:1 | | | **012** | |
| | | 15:1 | | | **015** | |
| | | 16:1 | | | **016** | |
| | | 20:1 | | | **020** | |
| | | 25:1 | | | **025** | |
| | | 32:1 | | | **032** | |
| | | 40:1 | | | **040** | |
| | | 60:1 | | | **060** | |
| | | 80:1 | | | **080** | |
| | | 100:1 | | | **100** | |
| **Mounting with GBK adapter kit** (see page 27) | | | | | | **K** |

***To order a GBX160 planetary gearbox, complete each reference above as follows:***

| | | | GBX | 160 | ●●● | 100 | ● | F |
|---|---|---|---|---|---|---|---|---|
| **Size** | Casing diameter | 160 mm/*6.30 in.* | | **160** | | | | |
| **Reduction ratio** | | 25:1 | | | **025** | | | |
| | | 32:1 | | | **032** | | | |
| | | 40:1 | | | **040** | | | |
| **Associated Lexium BMI servo motor** | Type | | | | | **100** | | |
| | Motor | | | | | | **2** | |
| | | | | | | | **3** | |
| **Lexium BMI servo motor adapter** | | | | | | | | **F** |

## Lexium BMI servo motor/GBX gearbox combinations

**Reduction ratios from 3:1 to 100:1**

| Servo motor | Reduction ratio | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3:1 4:1 | 5:1 | 8:1 | 9:1 | 12:1 | 15:1 16:1 | 20:1 | 25:1 | 32:1 | 40:1 | 60:1 | 80:1 | 100:1 |
| **BMI0702** | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 |
| **BMI0703** | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX080 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 |
| **BMI1002** | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX160 | GBX160 | GBX160 | – | – | – |
| **BMI1003** | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX120 | GBX160 | GBX160 | GBX160 | – | – | – |

**GBX120**

*For these combinations, you must check that the application will not exceed the maximum gearbox output torque; refer to the values on our website www.schneider-electric.com.*

# Motion control
# Lexium 32i integrated drives
## Lexium BMI servo motors
## Option: GBY angular planetary gearboxes

## References

PF080937

*GBY●●●●●●K angular planetary gearbox*

| Size | Reduction ratio | Reference | Weight kg/*lb* |
|---|---|---|---|
| **GBY80** | 3:1, 4:1, 5:1, and 8:1 | **GBY080●●●K** | 4.400/ *9.700* |
| | 12:1, 20:1 | **GBY080●●●K** | 5.000/ *11.023* |
| **GBY120** | 3:1, 4:1, 5:1, and 8:1 | **GBY120●●●K** | 12.000/ *26.455* |
| | 12:1, 20:1, and 40:1 | **GBY120●●●K** | 14.000/ *30.865* |

***To order a GBY angular planetary gearbox, complete each reference as follows:***

| | | | GBY | ●●● | ●●● | K |
|---|---|---|---|---|---|---|
| **Size** | Casing diameter | 80 mm/*3.15 in.* | | **080** | | |
| | | 120 mm/*4.72 in.* | | **120** | | |
| **Reduction ratio** | | 3:1 | | | **003** | |
| | | 4:1 | | | **004** | |
| | | 5:1 | | | **005** | |
| | | 8:1 | | | **008** | |
| | | 12:1 | | | **012** | |
| | | 20:1 | | | **020** | |
| | | 40:1 | | | **040** | |
| **Mounting with GBK adapter kit** (see page 27) | | | | | | **K** |

## Lexium BMI servo motor/GBY gearbox combinations

### Reduction ratios from 3:1 to 40:1

| Servo motor | Reduction ratio | | | | | | |
|---|---|---|---|---|---|---|---|
| | **3:1** | **4:1** | **5:1** | **8:1** | **12:1** | **20:1** | **40:1** |
| **BMI0702** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY120** |
| **BMI0703** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY080** | **GBY120** |
| **BMI1002** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **–** |
| **BMI1003** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **GBY120** | **–** |

**GBY080**

*For these combinations, you must check that the application will not exceed the maximum gearbox output torque; refer to the values on our website www.schneider-electric.com.*

# Motion control
# Lexium 32i integrated drives
## Lexium BMI servo motors
## Option: adapter kit for GB● planetary gearboxes

## References

***To order a GBK adapter kit, complete each reference as follows:***

| | | | GBK | ●●● | ●●● | ● | F |
|---|---|---|---|---|---|---|---|
| **Size of GBX or GBY planetary gearbox** | Casing diameter | 80 mm/*3.15 in.* | | **080** | | | |
| | | 120 mm/*4.72 in.* | | **120** | | | |
| **Associated Lexium BMI servo motor** | | BMI070 | | | **070** | | |
| | | BMI100 | | | **100** | | |
| | | 2 stage motor | | | | **2** | |
| | | 3 stage motor | | | | **3** | |
| **Lexium BMI servo motor adapter** | | | | | | | **F** |

## GBK adapter kit/Lexium BMI servo motor combinations

| Gearbox | Lexium BMI servo motor | | | |
|---|---|---|---|---|
| | 0702● | 0703● | 1002● | 1003● |
| **GBK0800702F** | | | | |
| **GBK0800703F** | | | | |
| **GBK1200702F** | | | | |
| **GBK1200703F** | | | | |
| **GBK1201003F** | | | | |

Compatible
Not compatible

*(1) Weight of adapter kit:*
- *GBK080●●●F: 0.450 kg/0.992 lb*
- *GBK120●●●F: 0.650 kg/1.433 lb*

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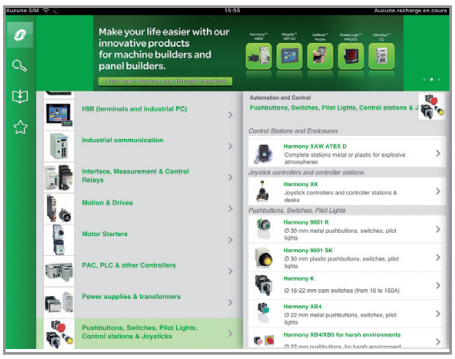
## Tablets

Application name: “Automation Library by Schneider Electric”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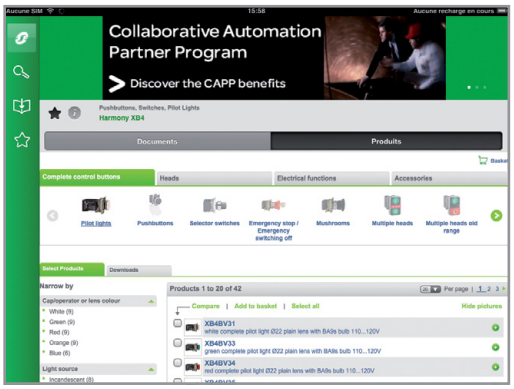


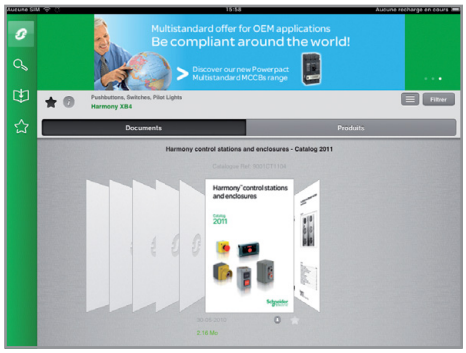

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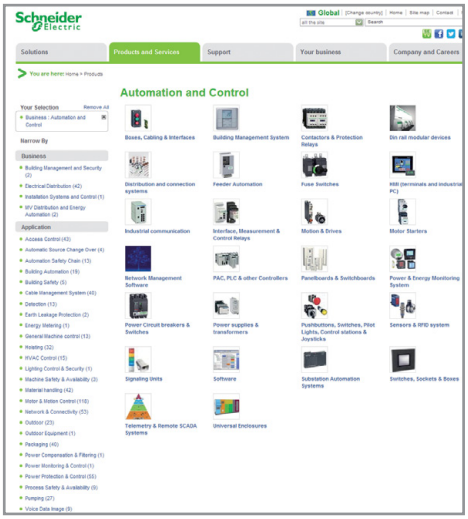


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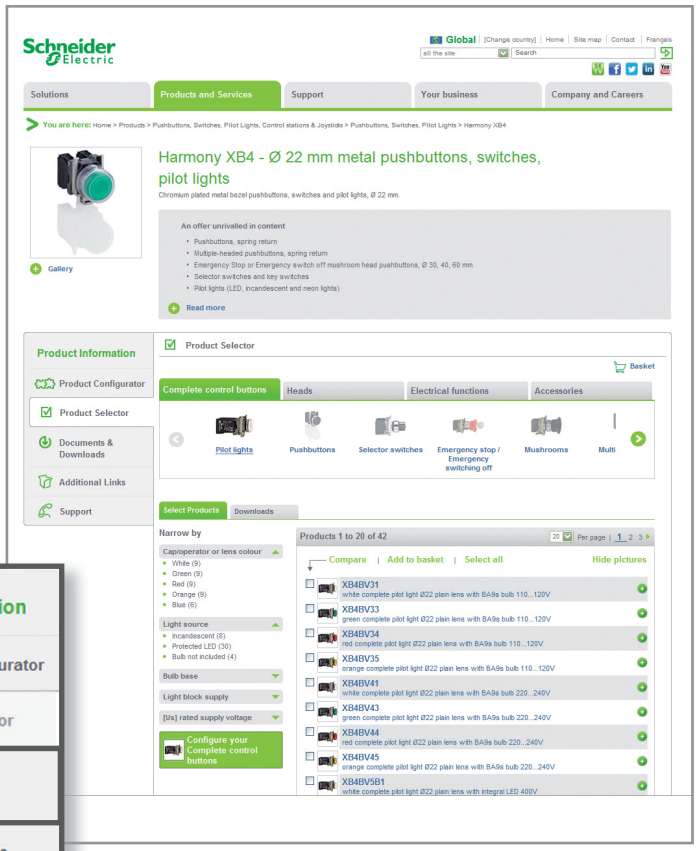


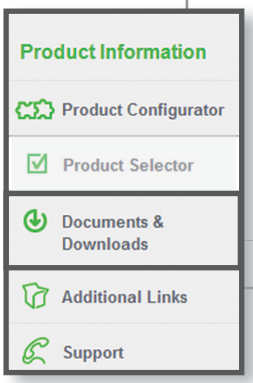

**Dynamic catalogues**
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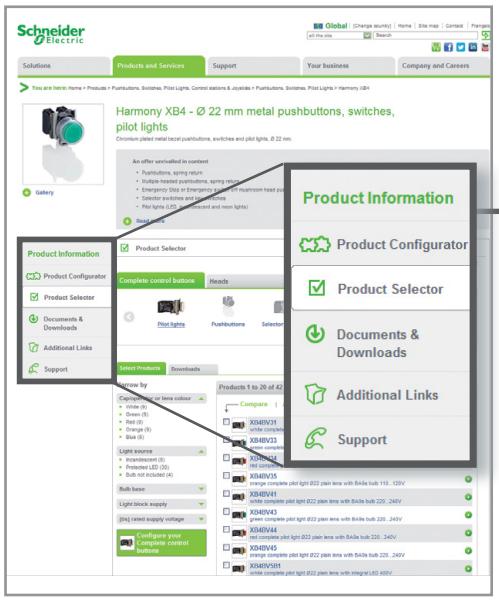


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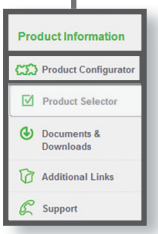


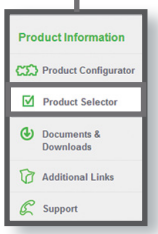


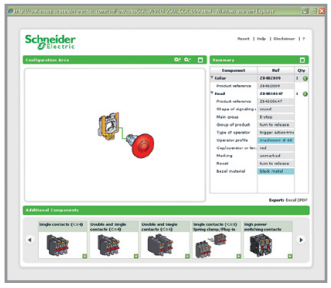

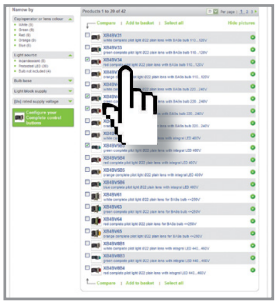

**Product data sheet**
with technical characteristics and dimensions

**Dimensions**

**Technical characteristics**

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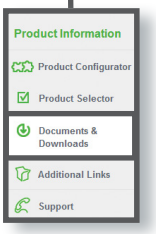
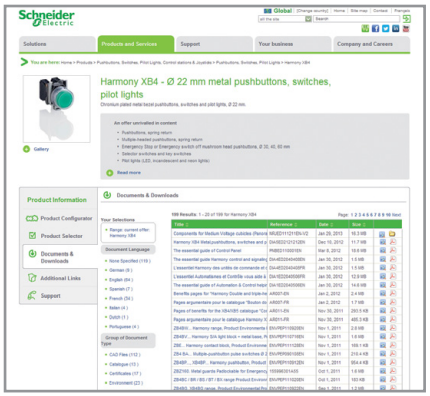
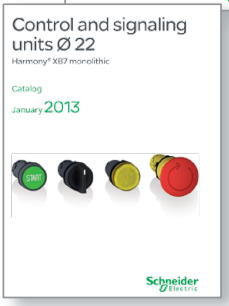
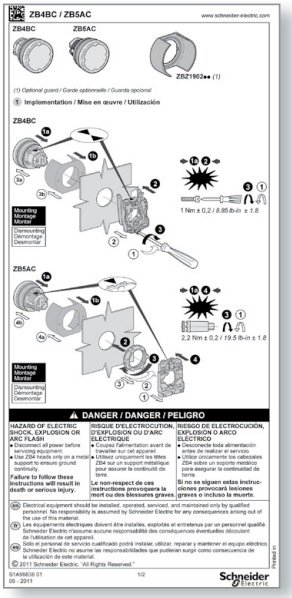





Essential guides

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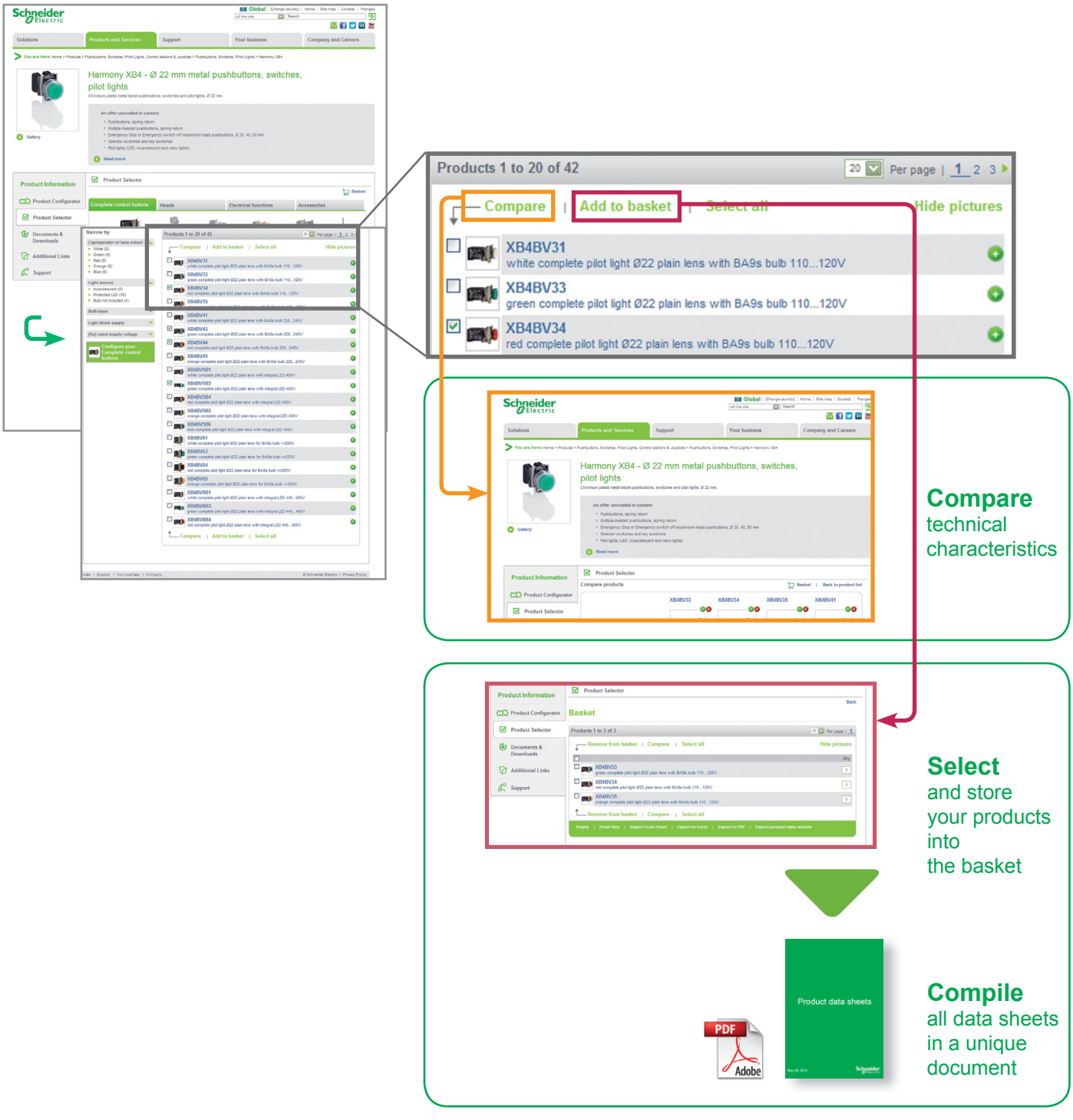


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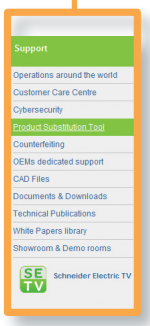


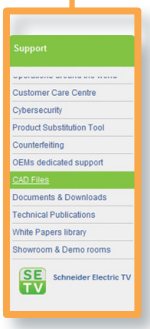


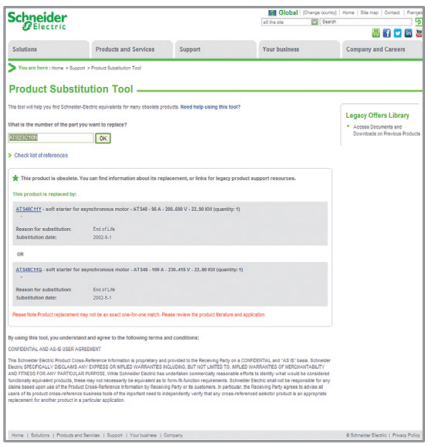


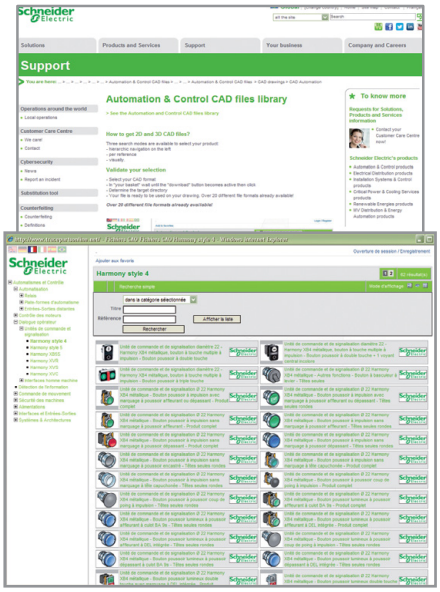


**Product status:**
indicate whether the product is still commercialized. Otherwise, the tool suggests a product substitution.

**CAD files:**
available in various formats they will be easily integrated into your installation design software.

Please note that all references to products and services are just examples.

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DIA7ED2130301EN

ART. 838990

Date: June 2013